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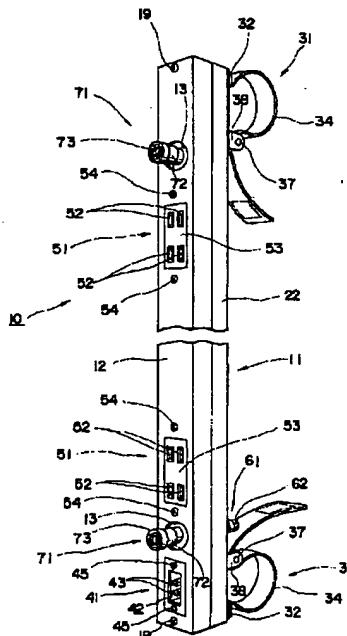
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(54)【発明の名称】 足場取付用電気およびエアー配管ユニット

(57)【要約】

【目的】 建築現場の足場に着脱自在であって、現場での照明および電動工具の使用と共に、圧縮エアーを用いた釘打ち機等のエアー式工具の使用にも便利であるようとした足場取付用電気およびエアー配管ユニットを提供する。

【構成】 足場1に着脱自在な取付手段31を備える長尺なユニットケース11と、このユニットケース11外面の一端部等に設けた電気取り入れ用端子部41および圧縮エアー取り入れ用接続部61と、ユニットケース11外面の両端部等に設けた各々複数の電気コンセント51、51および圧縮エアー取り出し用接続部71、71と、ユニットケース11内において、電気取り入れ用端子部41および電気コンセント51、51間をつなぐ電気コード46、55と、同じく圧縮エアー取り入れ用接続部61および圧縮エアー取り出し用接続部71、71間をつなぐエアーホース74とからなる。



【特許請求の範囲】

【請求項1】 足場に着脱自在な取付手段を備える長尺なユニットケースと、

このユニットケース外面の一端部等に設けた電気取り入れ用端子部および圧縮エアー取り入れ用接続部と、

前記ユニットケース外面の両端部等に設けた各々複数の電気コンセントおよび圧縮エアー取り出し用接続部と、

前記ユニットケース内において、前記電気取り入れ用端子部および前記電気コンセント間をつなぐ電気コードと、

同じく前記ユニットケース内において、前記圧縮エアー

取り入れ用接続部および前記圧縮エアー取り出し用接続部間をつなぐエアーホースとからなることを特徴とする足場取付用電気およびエアーパイプユニット。

【請求項2】 前記取付手段は、前記ユニットケース外面の両端部に取り付けたバンドであることを特徴とする請求項1記載の足場取付用電気およびエアーパイプユニット。

【請求項3】 前記電気取り入れ用端子部および前記圧縮エアー取り入れ用接続部は、前記ユニットケースの一端部における表裏方向に対向して備えられていることを特徴とする請求項1または2記載の足場取付用電気およびエアーパイプユニット。

【請求項4】 前記電気コンセントおよび前記圧縮エアー取り出し用接続部は、前記ユニットケースの同一面における両端部に各々並んで備えられていることを特徴とする請求項1、2または3記載の足場取付用電気およびエアーパイプユニット。

【請求項5】 前記電気コードおよび前記エアーホースは、中間部において、前記ユニットケース内に固定の板部材に形成した通し孔に各々保持されていることを特徴とする請求項1、2、3または4記載の足場取付用電気およびエアーパイプユニット。

【請求項6】 前記ユニットケースは、縦長のボックス状であって、前ケースと後ケースとを合体して構成されることを特徴とする請求項1、2、3、4または5記載の足場取付用電気およびエアーパイプユニット。

【請求項7】 前記ユニットケースは、複数の筒状部材により屈曲自在に構成されることを特徴とする請求項1、2、3、4または5記載の足場取付用電気およびエアーパイプユニット。

【請求項8】 前記ユニットケースは、少なくとも一部分に蛇腹状のフレキシブル部分を有する筒状部材により屈曲自在、且つ伸縮自在に構成されることを特徴とする請求項1、2、3、4または5記載の足場取付用電気およびエアーパイプユニット。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、建築現場の足場に取り付けて使用する電気および圧縮エアー供給用の配管ユニットに関するものである。

【0002】

【従来の技術】 建築現場において、照明や電気工具を使用するため、ドラムに巻き付けた電気コードを用いたり、仮設の電気コードを現場内に引き込んでいた。また、エアーコンプレッサーからの圧縮エアーを用いたナットランナーや釘打ち機等のエアーワークツを使用するためには、エアーコンプレッサーにつないだエアーホースを現場内に引き込んでいた。そして、足場に沿って複数の電気コードやエアーホースを這わせておくことも行われている。

【0003】

【発明が解決しようとする課題】 このように、建築現場で照明や電気工具およびエアーワークツを使用するために従来は、電気コードとエアーホースを直接引き込んだり、足場に各々這わせるようにしておらず、コードやホースが現場に錯綜し、また、現場毎でのその引き回し作業や撤去作業が面倒なものとなっていた。そして、電気工具やエアーワークツの使用の面からも、そのコードやホースに対する接続作業・取り外し作業は面倒なものとなっていた。

【0004】 そこで、本発明の目的は、建築現場の足場に着脱自在であって、現場での照明および電動工具の使用と共に、圧縮エアーを用いた釘打ち機等のエアーワークツの使用にも便利であるようにした足場取付用電気およびエアーパイプユニットを提供することにある。

【0005】

【課題を解決するための手段】 以上の課題を解決すべく本発明は、足場に着脱自在な取付手段を備える長尺なユニットケースと、このユニットケース外面の一端部等に設けた電気取り入れ用端子部および圧縮エアー取り入れ用接続部と、前記ユニットケース外面の両端部等に設けた各々複数の電気コンセントおよび圧縮エアー取り出し用接続部と、前記ユニットケース内において、前記電気取り入れ用端子部および前記電気コンセント間をつなぐ電気コードと、同じく前記ユニットケース内において、前記圧縮エアー取り入れ用接続部および前記圧縮エアー取り出し用接続部間をつなぐエアーホースとからなる足場取付用電気およびエアーパイプユニットを特徴とする。

【0006】 以上の足場取付用電気およびエアーパイプユニットにおいて、前記取付手段は、例えば、前記ユニットケース外面の両端部に取り付けたバンドである。前記電気取り入れ用端子部および前記圧縮エアー取り入れ用接続部は、例えば、前記ユニットケースの一端部における表裏方向に対向して備えられている。前記電気コンセントおよび前記圧縮エアー取り出し用接続部は、例えば、前記ユニットケースの同一面における両端部に各々並んで備えられている。前記電気コードおよび前記エアーホースは、例えば、中間部において、前記ユニットケース内に固定の板部材に形成した通し孔に各々保持され

ている。

【0007】そして、前記ユニットケースは、例えば、縦長のボックス状であって、前ケースと後ケースとを合体して構成される。または、複数の筒状部材により屈曲自在に構成される。あるいは、少なくとも一部分に蛇腹状のフレキシブル部分を有する筒状部材により屈曲自在、且つ伸縮自在なものとなり、折り曲げた状態での装着に加えて、取付箇所に応じて長さ調節した装着も行える。

【0008】

【作用】電気コードおよびエアーホースを内蔵して足場への取付手段を備えた長尺なユニットケースの外面に、電気取り入れ用端子部および圧縮エアーアー取り入れ用接続部を備えると共に、各々複数の電気コンセントおよび圧縮エアーアー取り出し用接続部を備えてなる足場取付用電気およびエアーアー配管ユニットなので、取付手段により足場に対する着脱が自在に行えて、電気取り入れ用端子部により電気供給側の電気コードとの接続が行えると共に、圧縮エアーアー取り入れ用接続部によりエアーコンプレッサー側のエアーホースとの接続が行える。

【0009】そして、特に、電気コンセントが複数あるので、その個々に照明および電動工具のプラグが差し込めて、その照明や電動工具の使用に便利であると共に、圧縮エアーアー取り出し用接続部も複数あるので、その個々に圧縮エアーアーを用いた釘打ち機等のエアーアー式工具のジャックが接続できて、そのエアーアー式工具の使用にも便利になる。また、複数のユニットケースにおける相互間の電気および圧縮エアーアーの供給接続も行える。

【0010】なお、取付手段を、ユニットケース外面の両端部に取り付けたバンドとして、足場を構成する横パイプ材等の大きさの相違に応じて取り付けられる。また、電気取り入れ用端子部および圧縮エアーアー取り入れ用接続部を、ユニットケースの一端部における表裏方向に對向して備えることで、電気供給側のコード接続箇所と圧縮エアーアー供給側のホース接続箇所を区別できると共に、その個々の接続状態も確認できる。そして、電気コンセントおよび圧縮エアーアー取り出し用接続部を、ユニットケースの同一面における両端部に各々並んで備えることで、作業箇所の高さに合わせて上下で個々に使用でき、また、ユニットケース相互間を接続するための電気コードおよびエアーホースが短いもので済む。さらに、電気コードおよびエアーホースを、中間部において、ユニットケース内に固定の板部材に形成した通し孔に各々保持させることで、エアーアー送りに伴うエアーホースのバタツキによる電気コードとの絡み付きを防止できる。

【0011】さらに、ユニットケースについては、縦長のボックス状であって、前ケースと後ケースとの合体により構成することで、分解状態にして、各構成部品の組み付けやメンテナンスが容易に行える。また、複数の筒状部材により構成することで、屈曲自在なものとなり、足場に対し直角等に折り曲げた状態で装着できる。そし

て、少なくとも一部分に蛇腹状のフレキシブル部分を有する筒状部材により構成することで、屈曲自在、且つ伸縮自在なものとなり、折り曲げた状態での装着に加えて、取付箇所に応じて長さ調節した装着も行える。

【0012】

【実施例】以下に、本発明に係る足場取付用電気およびエアーアー配管ユニットの実施例を図1乃至図12に基づいて説明する。先ず、本発明に係る足場取付用電気およびエアーアー配管ユニットの一例としての足場への取付使用状態を示す図1において、1は足場、2はその縦パイプ材、3は同じく横パイプ材、4は足場板、6はドラム、7はその電気コード、8はエアーコンプレッサー、9はそのエアーホース、10は本発明に係る足場取付用電気およびエアーアー配管ユニット、100はエアーアー式工具（釘打ち機）、101はそのエアーホースである。

【0013】図示のように、積み上げられた足場1の縦パイプ材2、2に沿って、例えば、上下2つの足場取付用電気およびエアーアー配管ユニット10、10が取り付けられている。この足場取付用電気およびエアーアー配管ユニット10は、図2乃至図6に示すように、そのユニットケース11を、アルミニウム製による前ケース12と後ケース22とを合体して構成した縦長ボックス状のものである。

【0014】前ケース12は、後方に開放する断面コ字状をなす長尺なもので、その前面の上下端寄り部に、圧縮エアーアー取り出し用接続部71、71を各々突出させるための円形開口部13、13を形成すると共に、中間部には、後方に突出する中間板15がビス（図示省略）止めにより固定されている。また、後ケース22は、前ケース12に対応して前方に開放する断面コ字状をなす長尺なもので、その上下端面には、前方に突出する蓋板23および底板24がビス25、25止めにより固定されている。

【0015】そして、後ケース22の背面上下端部に取付手段31、31が各々備えられている。この取付手段31は、図3乃至図8に示すように、固定板32のビス33、33止め部に布ベルト34を挿入して、この布ベルト34にマジックテープ35、36を設けると共に、布ベルト34を通すビン37を固定のコ字形ブラケット38、38間に備えてなる。

【0016】この取付手段31は、図3に示すように、固定板32とコ字形ブラケット38、38間に応じて、後ケース22と布ベルト34との間に足場横パイプ材3を通し、マジックテープ35、36を重ね合わせて互いに係止することにより、ユニットケース11を足場横パイプ材3に取り付けるものである。

【0017】また、前ケース12の前面下端部には、電気取り入れ用端子部41が備えられている。この電気取り入れ用端子部41は、図4に示すように、ソケット42内に二股端子43、43を有するものであり、44は

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ソケットボックス（図6および図8参照）、45はその取付用ビスである。

【0018】さらに、前ケース12の前面上下端部で、前記円形開口部13、13寄りには、電気コンセント51、51が各々備えられている。この電気コンセント51は、図4に示すように、上下一対のプラグ差込部52、52を有するものであり、53はコンセントボックス（図6乃至図8参照）、54はその取付用ビスである。

【0019】そして、図6および図8に示すように、前ケース12下方において、ソケットボックス44とその上のコンセントボックス53とは、電気コード46により接続されている。さらに、図6乃至図8に示すように、上下のコンセントボックス53、53間は、電気コード55により接続されている。この電気コード55は、図9に示すように、中間板15に形成した2個の通し孔16、16のうち、一方の通し孔16に通線されている。

【0020】また、後ケース22の背面下端部には、圧縮エアー取り入れ用接続部61が備えられている。この圧縮エアー取り入れ用接続部61は、図4乃至図6および図8に示すように、金具によるジャック62により形成されており、このジャック62は、後ケース22内に固定したエアージョイントボックス70の背面に取り付けられている。

【0021】さらに、このエアージョイントボックス70の前面には、圧縮エアー取り出し用接続部71が備えられている。この圧縮エアー取り出し用接続部71は、図4乃至図8に示すように、金具によるジョイントパイプ72により形成されており、このジョイントパイプ72は回転式の締込金具73を有している。

【0022】このジョイントパイプ72内に、適宜のエアー式工具等の耐圧用のエアーホースに設けたジャックを差し込んで、締込金具73を回して締め込むことにより接続が行われる。取り外す場合も、逆の操作により簡単に行える。

【0023】また、後ケース22内の上端部にも、同様のエアージョイントボックス70が固定されている。このエアージョイントボックス70は、背面側に前記のようなジャック62を持たないもので、このエアージョイントボックス70の前面にも、圧縮エアー取り出し用接続部71が備えられており、72は同様のジョイントパイプ、73は締込金具である。

【0024】そして、図6乃至図8に示すように、上下のエアージョイントボックス70、70間は、耐圧用のエアーホース74により接続されている。このエアーホース74は、図9に示すように、中間板15に形成した2個の通し孔16、16のうち、他方の通し孔16に通線されている。

【0025】以上の部品を各々備える前ケース12およ

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び後ケース22は、その前ケース12の円形開口部13、13から圧縮エアー取り出し用接続部71、71（ジョイントパイプ72、72）を前方に各々突出させて、電気コード46、55およびエアーホース74を納めた状態で、前ケース12前面の上下端を蓋板23および底板24に各々ビス19、19（図4参照）止めすると共に、後ケース22背面の中間部を中間板にビス（図示省略）止めすることによって合体する。

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【0026】こうして、内部への雨水の浸入を阻止するユニットケース11が組み立てられ、即ち、本発明に係る足場取付用電気およびエアーパイプユニット10の組み立てが完了する。

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【0027】次に、以上の構成による足場取付用電気およびエアーパイプユニット10の使い方について説明する。先ず、足場1への取り付けは、ユニットケース11上下端部の取付手段31、31によって、図3に示すように、固定板32とコ字形ブラケット38、38間ににおいて、後ケース22と布ベルト34との間に足場横パイプ材3を通し、マジックテープ35、36を重ね合わせて互いに係止することにより、図1に示すように、ユニットケース11を上下の足場横パイプ材3、3に取り付ける。

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【0028】そして、図1および図2に示すように、ユニットケース11の前面下端部に備える電気取り入れ用端子部41をなすソケット42内に、例えば、ドラム6に巻き付けられた電気コード7の雌型プラグを接続して、電源供給側との接続を行う。さらに、ユニットケース11の背面下端部に備える圧縮エアー取り入れ用接続部61をなすジャック62に、エアーコンプレッサー8に連なる耐圧用のエアーホース9を接続する。

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【0029】このようにして、足場1に装着した本発明の足場取付用電気およびエアーパイプユニット10によれば、その圧縮エアー取り出し用接続部71、71であるジョイントパイプ72、72を利用して、図示のように、例えば、エアー式工具の一つであるエアー式釘打ち機100のエアーホース101のジャックを接続して、そのエアー式釘打ち機100を使用することができる。また、他のエアー式ナットランナー等のエアー式工具も使用できる。

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【0030】さらに、本発明の足場取付用電気およびエアーパイプユニット10によれば、その電気コンセント51、51を利用して、図示せぬ照明および電動工具のプラグを差し込んで、照明や電動工具を使用することができる。

【0031】ところで、図1および図2に示すように、必要に応じて、足場1の下段側に取り付けた電気およびエアーパイプユニット10の電気コンセント51と、その上段側に取り付けた電気およびエアーパイプユニット10のソケット42とを電気コード105で接続して使用できる。

【0032】同様に、図2に示すように、足場1の下段側に取り付けた電気およびエアーパイプユニット10のジョイントパイプ72と、その上段側に取り付けた配管ユニット10のジャック62とを耐圧用のエアーホース106で接続して使用できる。なお、以上の実施例では、ユニットケース11をアルミニウム製の前ケース12および後ケース22により構成したが、樹脂製の前ケース12および後ケース22を採用してもよい。

【0033】図10はユニットケースの他の構成例を示すもので、2本の筒状部材82、82によりその中間の関節部83で屈曲自在としたユニットケース81の例である。

【0034】また、図11には、3本の筒状部材86、86、86によりその間の2つの関節部87、87で各々屈曲自在としたユニットケース85を示している。こうすれば、足場1に対し直角等に折り曲げた状態で装着できる。

【0035】図12は上下の筒状部分92、92の間に蛇腹状のフレキシブル部分93を有する筒状部材により構成したユニットケース91の例で、そのフレキシブル部分93により屈曲自在であると共に、伸縮自在であるといった機能が得られる。こうすれば、足場1に対し折り曲げた状態での装着に加えて、足場1への取付箇所に応じて長さを若干調節して装着できる。

【0036】なお、以上の実施例においては、電気コンセントおよび圧縮エアーアー取り出し用接続部を、ユニットケースの同一面両端部に各々並べた構成としたが、本発明はこれに限定されるものではなく、その配置面や配置箇所を異ならせたり、個数について3個以上であってもよい。また、ユニットケースの長さ寸法や材質、デザイン等も任意であり、例えば、テレスコピックタイプのユニットケースとしてもよい。その他、取付手段の構成も含めて、具体的な細部構造等についても適宜に変更可能であることは勿論である。

【0037】

【発明の効果】以上のように、本発明に係る足場取付用電気およびエアーパイプユニットによれば、電気コードおよびエアーホースを内蔵して足場への取付手段を備えた長尺なユニットケースの外面に、電気取り入れ用端子部および圧縮エアーアー取り入れ用接続部を備えると共に、各々複数の電気コンセントおよび圧縮エアーアー取り出し用接続部を備えてなるため、先ず、取付手段により足場に対する着脱が自在となり、また、電気取り入れ用端子部により電気供給側の電気コードと接続できると共に、圧縮エアーアー取り入れ用接続部によりエアーコンプレッサー側のエアーホースと接続できる。

【0038】そして、特に、電気コンセントが複数あるため、その個々に照明および電動工具のプラグを差し込むことができ、従って、照明や電動工具の使用に便利であると共に、圧縮エアーアー取り出し用接続部も複数あるた

め、その個々に圧縮エアーアーを用いた釘打ち機等のエアーパイプのジャックを接続することができ、従って、エアーパイプの使用にも便利なものとなる。また、複数のユニットケースにおける相互間の電気および圧縮エアーアーの供給接続も行うことができる。

【0039】なお、請求項2のように、取付手段を、ユニットケース外面の両端部に取り付けたバンドとすれば、足場を構成する横パイプ材等の大きさの相違に応じて取り付けることができる。

10 【0040】また、請求項3のように、電気取り入れ用端子部および圧縮エアーアー取り入れ用接続部を、ユニットケースの一端部における表裏方向に対向して備えることにより、電気供給側のコード接続箇所と圧縮エアーアー供給側のホース接続箇所を区別することができると共に、その各々の接続状態も確認することができる。

【0041】そして、請求項4のように、電気コンセントおよび圧縮エアーアー取り出し用接続部を、ユニットケースの同一面における両端部に各々並んで備えることにより、作業箇所の高さに合わせて上下で個々に使用することができ、また、ユニットケース相互間を接続するための電気コードおよびエアーホースが短いもので済むといった利点も得られる。

20 【0042】さらに、請求項5のように、電気コードおよびエアーホースを、中間部において、ユニットケース内に固定の板部材に形成した通し孔に各々保持させることにより、エアーパイプに伴うエアーホースのバツキによる電気コードとの絡み付きを防止することができる。

【0043】さらに、ユニットケースについては、請求項6のように、縦長のボックス状であって、前ケースと後ケースとの合体により構成しておけば、分解状態にして、各構成部品の組み付けやメンテナンスを容易に行うことができる。

30 【0044】また、請求項7のように、複数の筒状部材により構成すれば、屈曲自在なものとなって、足場に対し直角等に折り曲げた状態で装着することができる。

【0045】そして、請求項8のように、少なくとも一部分に蛇腹状のフレキシブル部分を有する筒状部材により構成することにより、屈曲自在、且つ伸縮自在なものとなって、折り曲げた状態での装着に加えて、取付箇所に応じて長さ調節した装着も行うことができる。

【図面の簡単な説明】

【図1】本発明に係る足場取付用電気およびエアーパイプユニットの一例としての足場への取付使用状態を示す概略斜視図である。

【図2】本発明に係る足場取付用電気およびエアーパイプユニットの接続例と併せて使用例を示す概略斜視図である。

【図3】その取付手段による足場への取付部分を示す拡大斜視図である。

50 【図4】本発明に係る足場取付用電気およびエアーパイ

ユニットを正面側から示す概略斜視図である。

【図5】同じく背面側から示す概略斜視図である。

【図6】本発明に係る足場取付用電気およびエア配管ユニットの前ケースと後ケースを分解して内部構造等を示す概略斜視図である。

【図7】同じく上部の拡大斜視図である。

【図8】同じく下部の拡大斜視図である。

【図9】同じく中間部の板部材部分の拡大斜視図である。

【図10】2本の筒状部材によるユニットケースの構成例を示す概略斜視図である。

【図11】同じく3本の筒状部材によるユニットケースの構成例を示す概略斜視図である。

【図12】中間部に蛇腹状のフレキシブル部分を有する筒状部材によるユニットケースの構成例を示す概略斜視図である。

【符号の説明】

- 1 足場
- 2 縦パイプ材
- 3 横パイプ材
- 4 足場板
- 6 ドラム
- 7 電気コード
- 8 エアーコンプレッサー
- 9 エアーホース
- 10 本発明に係る足場取付用電気およびエア配管ユニット
- 11 ユニットケース
- 12 前ケース

13 円形開口部

15 中間板

16 通し孔

22 後ケース

23 蓋板

24 底板

31 取付手段

34 ベルト

41 電気取り入れ用端子部

42 ソケット

43 二股端子

44 ソケットボックス

46 電気コード

51 電気コンセント

52 プラグ差込部

53 コンセントボックス

55 電気コード

61 圧縮エア取り入れ用接続部

62 ジャック

70 エアージョイントボックス

71 圧縮エア取り出し用接続部

72 ジョイントパイプ

73 締込金具

74 エアーホース

81, 85, 91 ユニットケース

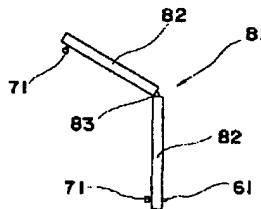
82, 86 筒状部材

93 フレキシブル部分

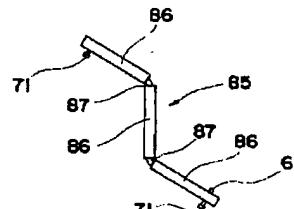
100 エアーワーク (釘打ち機)

101 エアーホース

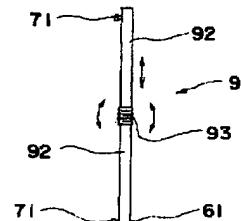
【図10】



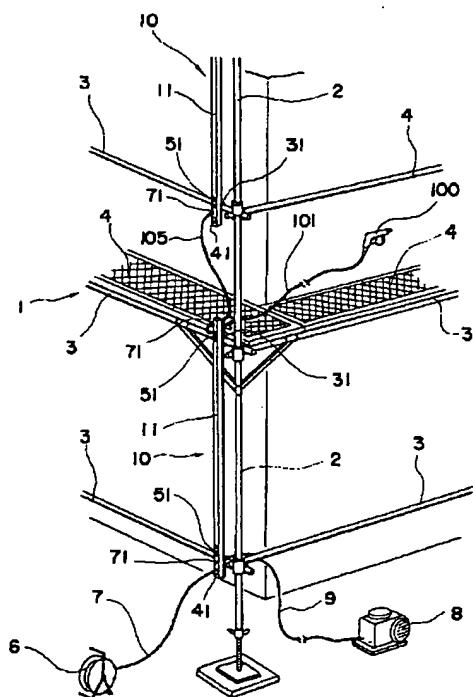
【図11】



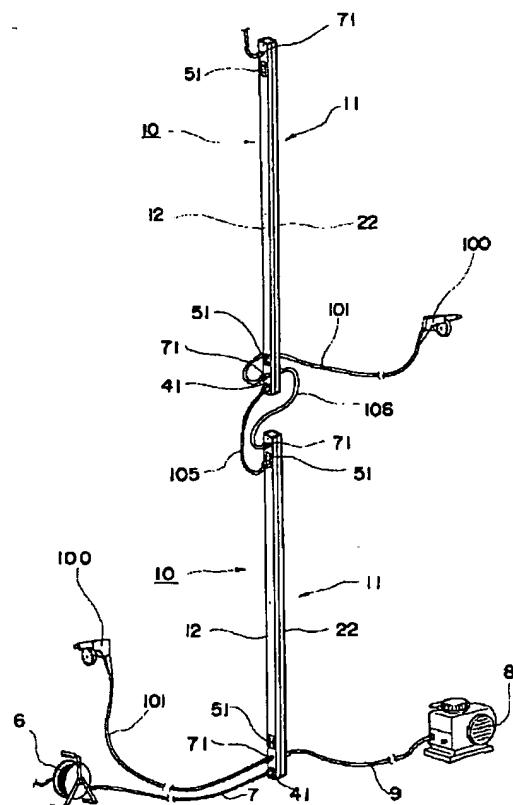
【図12】



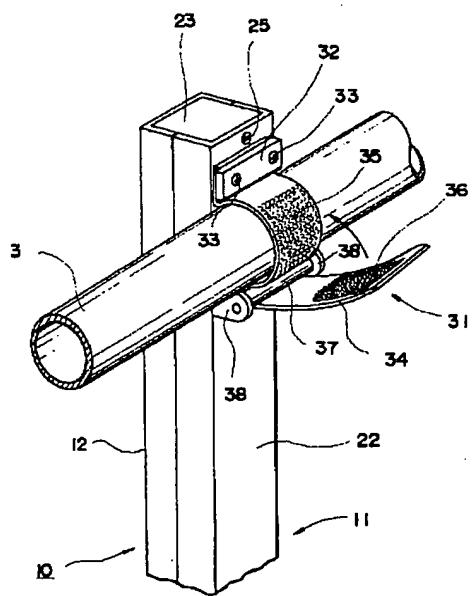
【図1】



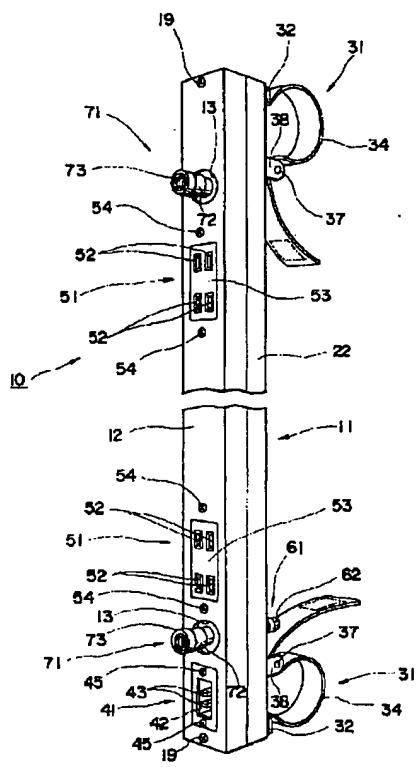
【図2】



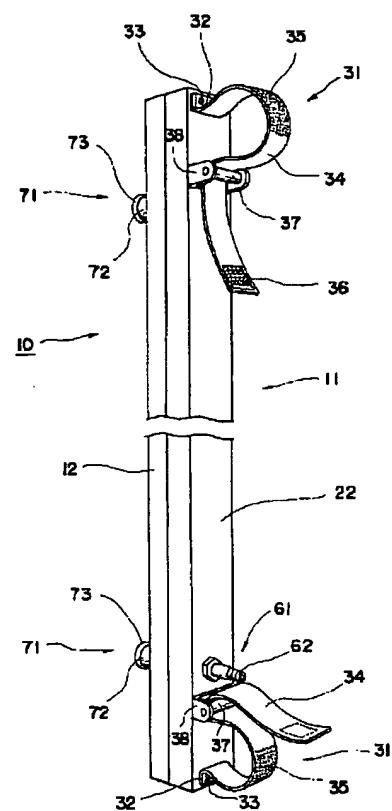
【図3】



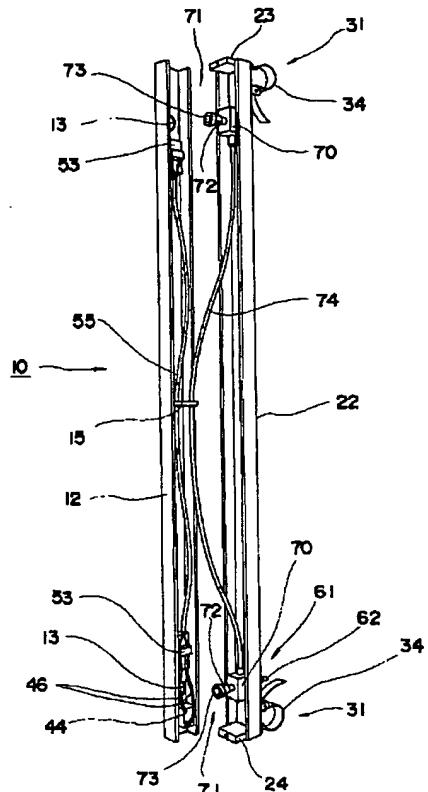
【図4】



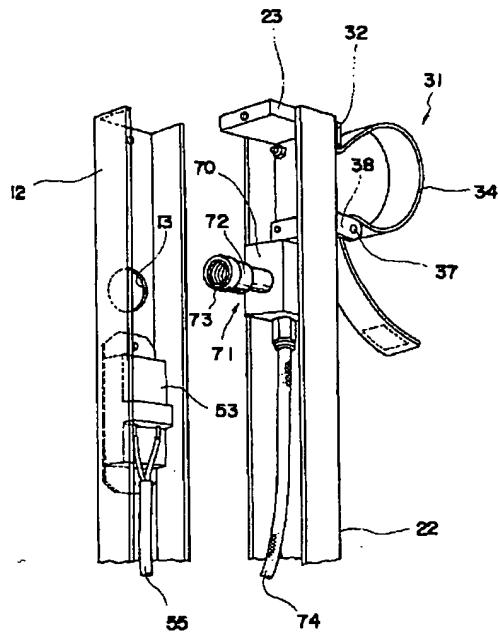
【図5】



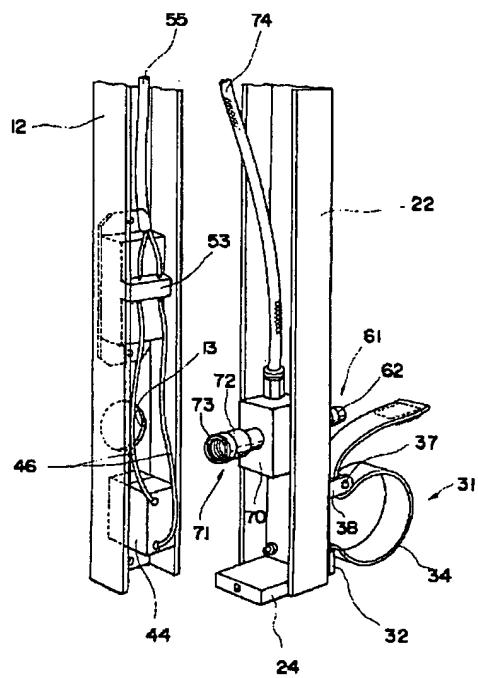
[圖 6]



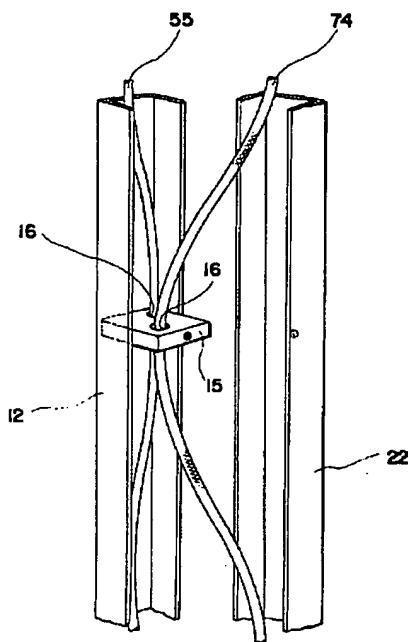
【图7】



【図8】



[図9]



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the electrical and electric equipment and the piping unit for compression Ayr supply which are used attaching in the scaffold of a construction site.

[0002]

[Description of the Prior Art] In the construction site, in order to use lighting and electric equipment, the electric code twisted around the drum was used, and the temporary electric code was drawn in the site. Moreover, in order to use Ayr style tools using compression Ayr from an air compressor, such as a nut runner and a ***** machine, the air hose connected with the air compressor was drawn in the site. And it is performed that you also make it crawl on two or more power cords and air hoses along a scaffold.

[0003]

[Problem(s) to be Solved by the Invention] Thus, in order to use lighting, electric equipment, and an Ayr style tool in a construction site, the power cord and the air hose were drawn directly conventionally, or he is trying to make a scaffold crawl respectively, and the code and the hose became complicated in the site, and the leading-about activity in every site and a withdrawal activity became troublesome. And connection / removal activity over the code and hose became troublesome also from the field of use of electric equipment or an Ayr style tool.

[0004] Then, the purpose of this invention is to offer the electrical and electric equipment for scaffold attachment and Ayr piping unit which were carried out as [conveniently / use / the lighting in a site, and / of a power tool / attachment and detachment on the scaffold of a construction site are free, and / use of Ayr style tools, such as a ***** machine using compression Ayr,].

[0005]

[Means for Solving the Problem] The long picture unit case equipped with the attachment means which can detach and attach this invention freely on a scaffold that the above technical problem should be solved. The terminal area for electric introduction and the connection for compression Ayr introduction which were prepared in the end section of this unit case external surface etc., [the electric plug socket and the connection for compression Ayr ejection which were prepared in the both ends of said unit case external surface etc. and which are plurality respectively, and in said unit case] As well as the power cord which connects between said terminal area for electric introduction, and said electric plug socket, it sets in said unit case. It is characterized by the electrical and electric equipment for scaffold attachment which consists of an air hose which connects between said connection for compression Ayr introduction, and said connection for compression Ayr ejection, and the Ayr piping unit.

[0006] In the above electrical and electric equipment for scaffold attachment and Ayr piping unit, said attachment means is the band attached in the both ends of said unit case external surface, for example. It counters and has said terminal area for electric introduction, and said connection for compression Ayr introduction in the direction of a front flesh side in the end section of said unit case, for example. Respectively together with the both ends in the same field of said unit case, it has said electric plug socket and said connection for compression Ayr ejection, for example. Said electric code and said air hose are respectively held in pars intermedia at the through hole formed in said unit case at the plate member of immobilization.

[0007] And said unit case has the shape of a box of for example, vertical length, it coalesces and a last case and a back case are constituted. Or it is constituted by two or more tubed part material free [crookedness]. Or it is constituted free [crookedness] and elastically by the tubed part material which has a flexible bellows-like part at least in a part.

[0008]

[Function] While equipping with the terminal area for electric introduction, and the connection for compression Ayr introduction the external surface of the long picture unit case which

contained the power cord and the air hose and was equipped with the attachment means to a scaffold Respectively, since it is two or more electrical and electric equipment for scaffold attachment and Ayr piping units which come to have an electric plug socket and a connection for compression Ayr ejection While an attachment means can perform the attachment and detachment to a scaffold free and being able to make connection with the electric code by the side of electric supply by the terminal area for electric introduction, connection with the air hose by the side of an air compressor can be made by the connection for compression Ayr introduction.

[0009] And since the connection for compression Ayr ejection also has more than one while being able to insert the plug of lighting and a power tool in the each and being convenient for the lighting and use of a power tool, since there are two or more electric plug sockets especially, the jack of Ayr style tools, such as a ***** machine which used compression Ayr for the each, can be connected, and it becomes convenient also for use of the Ayr style tool. Moreover, the mutual electrical and electric equipment in two or more unit cases and supply connection of compression Ayr can also be made.

[0010] In addition, according to a difference of magnitude, such as horizontal pipe material which constitutes a scaffold, it is attached by using an attachment means as the band attached in the both ends of unit case external surface. Moreover, by countering and having a terminal area for electric introduction, and a connection for compression Ayr introduction in the direction of a front flesh side in the end section of a unit case, while the code connection place by the side of electric supply and the hose connection place by the side of compression Ayr supply are distinguishable, that each condition of connection can also be checked. And the electric code and air hose for being able to use it separately by the upper and lower sides, according to the height of an activity part, and connecting between unit cases are short, and can be managed with having an electric plug socket and a connection for compression Ayr ejection respectively together with the both ends in the same field of a unit case. Furthermore, it can prevent with [with the electric code by BATATSUKI of the air hose accompanying Ayr feeding] a debt by making it hold respectively to the through hole which formed the electric code and the air hose in the unit case in pars intermedia at the plate member of immobilization.

[0011] Furthermore, about a unit case, it has the shape of a longwise box and is constituting with coalesce with a last case and a back case, and it changes into a decomposition condition and attachment and a maintenance of each component part can be performed easily. Moreover, it becomes what can be freely crooked with constituting by two or more tubed part material, and can equip in the condition of having bent at the right angle etc. to the scaffold, and wearing in the condition of having become free [crookedness] and elastic and having bent with constituting by the tubed part material which boils a part at least and has a flexible bellows-like part -- in addition, wearing which carried out die-length accommodation according to the attach point can also be performed.

[0012]

[Example] Below, the example of the electrical and electric equipment for scaffold attachment concerning this invention and an Ayr piping unit is explained based on drawing 1 thru/or drawing 12. First, it sets to drawing 1 which shows the attachment busy condition to the scaffold as an example of the electrical and electric equipment for scaffold attachment concerning this invention, and an Ayr piping unit. As for the longitudinal pipe material and 3, a scaffold and 2 are the same, and horizontal pipe material and 4 1 A scaffold board. As for the electrical and electric equipment for scaffold attachment with which as for the power cord and 8 an air compressor and 9 require the air hose, and 10 requires [6] a drum and 7 for this invention and an Ayr piping unit, and 100, an Ayr style tool (***** machine) and 101 are the air hose.

[0013] Like illustration, the electrical and electric equipment for scaffold attachment of two upper and lower sides and the Ayr piping units 10 and 10 are attached along with the longitudinal pipe material 2 and 2 of the accumulated scaffold 1. This electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 are the things of the shape of a longwise box which coalesced and constituted the last case 12 and the back case 22 which twist that unit case 11 to the product made from aluminum, as shown in drawing 2 thru/or drawing 6.

[0014] The last case 12 makes the shape of a cross-section K0 character opened back, and while forming the circular openings 13 and 13 for [long picture] making the connections 71 and 71 for compression Ayr ejection project respectively in the vertical edge approach section of the front face, the middle plate 15 which projects back is being fixed to pars intermedia by the screw (illustration abbreviation) stop. Moreover, the back case 22 makes the shape of a cross-section K0 character ahead opened corresponding to the last case 12, and the cover plate 23 and bottom plate 24 which project [long picture] ahead in the vertical end face are being fixed by the screw 25 and 25 stops.

[0015] And the tooth-back vertical edge of the back case 22 is respectively equipped with the attachment means 31 and 31. This attachment means 31 comes to have the pin 37 which lets a textile belt 34 pass between the K0 typeface bracket 38 of fixation, and 38 while it fastens a

textile belt 34 to the screw 33 of a stationary plate 32, and 33 stop sections and forms pieces of Velcro 35 and 36 in this textile belt 34, as shown in drawing 3 thru/or drawing 8.

[0016] This attachment means 31 attaches the unit case 11 in the scaffold horizontal pipe material 3 by piling up through and pieces of Velcro 35 and 36 between the back case 22 and a textile belt 34 between a stationary plate 32, the KO typeface bracket 38, and 38, and stopping the scaffold horizontal pipe material 3 mutually, as shown in drawing 3.

[0017] Moreover, the front lower limit section of the last case 12 is equipped with the terminal area 41 for electric introduction. this terminal area 41 for electric introduction is shown in drawing 4 — as — the inside of a socket 42 — two forks — having terminals 43 and 43, 44 is a socket box (refer to drawing 6 and drawing 8), and 45 is that screw for attachment.

[0018] Furthermore, said circular opening 13 and 13 approach are respectively equipped with the electric plug sockets 51 and 51 at the front vertical edge of the last case 12. This electric plug socket 51 has the plug spigot sections 52 and 52 of a vertical pair, as shown in drawing 4, 53 is a plug socket box (refer to drawing 6 thru/or drawing 8), and 54 is that screw for attachment.

[0019] And as shown in drawing 6 and drawing 8, in last case 12 lower part, the socket box 44 and the plug socket box 53 on it are connected by the electric code 46. Furthermore, as shown in drawing 6 thru/or drawing 8, the electric code 55 connects between the up-and-down plug socket box 53 and 53. As shown in drawing 9, one through hole 16 ****s in this electric code 55 between two through holes 16 and 16 formed in the middle plate 15.

[0020] Moreover, the tooth-back lower limit section of the back case 22 is equipped with the connection 61 for compression Ayr introduction. As this connection 61 for compression Ayr introduction is shown in drawing 4 thru/or drawing 6, and drawing 8, it is formed of the jack 62 by metallic ornaments, and this jack 62 is attached in the tooth back of the Ayr joint box 70 fixed in the back case 22.

[0021] Furthermore, the front face of this Ayr joint box 70 is equipped with the connection 71 for compression Ayr ejection. As this connection 71 for compression Ayr ejection is shown in drawing 4 thru/or drawing 8, it is formed with the joint pipe 72 by metallic ornaments, and this joint pipe 72 has the fastening metallic ornaments 73 of a rotating type.

[0022] Connection is made by inserting the jack prepared in the air hose for pressure-proofing of a proper Ayr style tool etc., turning the fastening metallic ornaments 73 in this joint pipe 72, and fastening. Also when removing, reverse actuation can perform easily.

[0023] Moreover, the same Ayr joint box 70 is being fixed also to the upper limit section within the back case 22. This Ayr joint box 70 does not have the above jacks 62 in a tooth-back side, the front face of this Ayr joint box 70 is also equipped with the connection 71 for compression Ayr ejection, and a joint pipe with 72 [same] and 73 are fastening metallic ornaments.

[0024] And as shown in drawing 6 thru/or drawing 8, the air hose 74 for pressure-proofing connects between the up-and-down Ayr joint box 70 and 70. As shown in drawing 9, the through hole 16 of another side ****s to this air hose 74 between two through holes 16 and 16 formed in the middle plate 15.

[0025] The last case 12 and the back case 22 which are respectively equipped with the above components Where it made the connections 71 and 71 (joint pipes 72 and 72) for compression Ayr ejection project respectively ahead from the circular openings 13 and 13 of the last case 12 and the power cords 46 and 55 and an air hose 74 are dedicated Respectively, the vertical edge of last case 12 front face is coalesced in a cover plate 23 and a bottom plate 24 a screw 19 and by carrying out the screw (illustration abbreviation) stop of the pars intermedia of back case 22 tooth back to a middle plate, while carrying out 19 (refer to drawing 4) stops.

[0026] In this way, the assembly of the electrical and electric equipment for scaffold attachment which the unit case 11 which prevents permeation of the storm sewage to the interior is assembled, namely, is built over this invention, and the Ayr piping unit 10 is completed.

[0027] Next, how to use the electrical and electric equipment for scaffold attachment by the above configuration and the Ayr piping unit 10 is explained. The installation to a scaffold 1 first, with the attachment means 31 and 31 of a unit case 11 vertical edge As shown in drawing 3, it sets between a stationary plate 32, the KO typeface bracket 38, and 38. By piling up through and pieces of Velcro 35 and 36 between the back case 22 and a textile belt 34, and stopping the scaffold horizontal pipe material 3 mutually, as shown in drawing 1, the unit case 11 is attached in the up-and-down scaffold horizontal pipe material 3 and 3.

[0028] And as shown in drawing 1 and drawing 2, in the socket 42 which makes the terminal area 41 for electric introduction with which the front lower limit section of the unit case 11 is equipped, the female mold plug of the power cord 7 twisted around the drum 6 is connected, and connection by the side of current supply is made. Furthermore, the air hose 9 for pressure-proofing which stands in a row in an air compressor 8 is connected to the jack 62 which makes the connection 61 for compression Ayr introduction with which the tooth-back lower limit section of the unit case 11 is equipped.

[0029] Thus, according to the electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 of this invention with which the scaffold 1 was equipped, using the joint pipes 72 and 72 which are the connections 71 and 71 for compression Ayr ejection, the jack of the air hose 101 of an Ayr style ***** machine 100 which is one of the Ayr style tools can be connected like illustration, and the Ayr style ***** machine 100 can be used. Moreover, Ayr style tools, such as other Ayr style nut runners, can also be used.

[0030] Furthermore, according to the electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 of this invention, the plug of the lighting which is not illustrated and a power tool can be inserted using the electric plug sockets 51 and 51, and lighting and a power tool can be used.

[0031] By the way, as shown in drawing 1 and drawing 2, it can be used in electric code 105 if needed, being able to connect the electric plug socket 51 of the electrical and electric equipment attached in the lower-berth side of a scaffold 1, and the Ayr piping unit 10, and the socket 42 of the electrical and electric equipment attached in the upper case side, and the Ayr piping unit 10.

[0032] Similarly, as shown in drawing 2, it can be used by the air hose 106 for pressure-proofing, being able to connect the joint pipe 72 of the electrical and electric equipment attached in the lower-berth side of a scaffold 1, and the Ayr piping unit 10, and the jack 62 of the piping unit 10 attached in the upper case side. In addition, although the last case 12 and the back case 22 made from aluminum constituted the unit case 11 from the above example, the last case 12 and the back case 22 made of resin may be adopted.

[0033] Drawing 10 is the example of the unit case 81 whose crookedness shows other examples of a configuration of a unit case, and was enabled in the middle joint section 83 by two tubed part material 82 and 82.

[0034] Moreover, the unit case 85 whose crookedness was respectively enabled in the two joint sections 87 and 87 in the meantime by three tubed part material 86, 86, and 86 is shown in drawing 11. If it carries out like this, it can equip in the condition of having bent at the right angle etc. to the scaffold 1.

[0035] Drawing 12 is the example of the unit case 91 constituted by the tubed part material which has the flexible bellows-like part 93 in between for an up-and-down tubed part [92 / 92 and], and while being freely crooked by the flexible part 93, the function to be elastic is obtained. If it carries out like this, in addition to wearing in the condition of having bent to 1, according to the attach point to a scaffold 1, die length is adjusted on a scaffold a little, and it can be equipped with it.

[0036] In addition, in the above example, although considered as the configuration which arranged respectively the electric plug socket and the connection for compression Ayr ejection in the same side both ends of a unit case, this invention may not be limited to this, and the arrangement side and arrangement part may be changed, or it may be three or more pieces about the number. Moreover, the die-length dimension of a unit case, the quality of the material, a design, etc. are arbitrary, for example, good also as a telescopic type unit case. In addition, of course, it can change suitably also about a concrete constructional detail also including the configuration of an attachment means.

[0037]

[Effect of the Invention] As mentioned above, according to the electrical and electric equipment for scaffold attachment and Ayr piping unit concerning this invention While equipping with the terminal area for electric introduction, and the connection for compression Ayr introduction the external surface of the long picture unit case which contained the power cord and the air hose and was equipped with the attachment means to a scaffold Since it comes to have two or more electric plug sockets and a connection for compression Ayr ejection respectively, while the attachment and detachment to a scaffold are first attained with an attachment means and being able to connect with the electric code by the side of electric supply by the terminal area for electric introduction It is connectable with the air hose by the side of an air compressor with the connection for compression Ayr introduction.

[0038] And since the connection for compression Ayr ejection also has more than one while being able to insert the plug of lighting and a power tool in the each, therefore being convenient for lighting or use of a power tool, since there are two or more electric plug sockets especially, the jack of Ayr style tools, such as a ***** machine which used compression Ayr for the each, can be connected, therefore it will become convenient also for use of an Ayr style tool. Moreover, the mutual electrical and electric equipment in two or more unit cases and supply connection of compression Ayr can also be made.

[0039] In addition, according to a difference of magnitude, such as a band which attached the attachment means in the both ends of unit case external surface, then horizontal pipe material which constitutes a scaffold, it can attach like claim 2.

[0040] Moreover, while the code connection place by the side of electric supply and the hose

connection place by the side of compression Ayr supply are distinguishable like claim 3 by countering and having a terminal area for electric introduction, and a connection for compression Ayr introduction in the direction of a front flesh side in the end section of a unit case, that each condition of connection can also be checked.

[0041] And the advantage of the electric code and air hose for being able to use it separately by the upper and lower sides according to the height of an activity part, and connecting between unit cases being short, and ending is also acquired like claim 4 by having an electric plug socket and a connection for compression Ayr ejection respectively together with the both ends in the same field of a unit case.

[0042] Furthermore, it can prevent with [with the electric code by BATATSUKI of the air hose accompanying Ayr feeding] a debt by making it hold respectively like claim 5 to the through hole which formed the electric code and the air hose in the unit case in pars intermedia at the plate member of immobilization.

[0043] Furthermore, about a unit case, like claim 6, it has the shape of a longwise box, and if coalesce with a last case and a back case constitutes, it can change into a decomposition condition and attachment and a maintenance of each component part can be performed easily.

[0044] Moreover, like claim 7, if two or more tubed part material constitutes, it becomes what can be crooked freely and can equip in the condition of having bent at the right angle etc. to the scaffold.

[0045] and wearing in the condition of having become free [crookedness] and elastic and having bent by constituting by the tubed part material which boils a part at least and has a flexible bellows-like part like claim 8 — in addition, wearing which carried out die-length accommodation according to the attach point can also be performed.

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TECHNICAL FIELD

[Industrial Application] This invention relates to the electrical and electric equipment and the piping unit for compression Ayr supply which are used attaching in the scaffold of a construction site.

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PRIOR ART

[Description of the Prior Art] In the construction site, in order to use lighting and electric equipment, the electric code twisted around the drum was used, and the temporary electric code was drawn in the site. Moreover, in order to use Ayr style tools using compression Ayr from an air compressor, such as a nut runner and a ***** machine, the air hose connected with the air compressor was drawn in the site. And it is performed that you also make it crawl on two or more power cords and air hoses along a scaffold.

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EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, according to the electrical and electric equipment for scaffold attachment and Ayr piping unit concerning this invention While equipping with the terminal area for electric introduction, and the connection for compression Ayr introduction the external surface of the long picture unit case which contained the power cord and the air hose and was equipped with the attachment means to a scaffold Since it comes to have two or more electric plug sockets and a connection for compression Ayr ejection respectively, while the attachment and detachment to a scaffold are first attained with an attachment means and being able to connect with the electric code by the side of electric supply by the terminal area for electric introduction It is connectable with the air hose by the side of an air compressor with the connection for compression Ayr introduction.

[0038] And since the connection for compression Ayr ejection also has more than one while being able to insert the plug of lighting and a power tool in the each, therefore being convenient for lighting or use of a power tool, since there are two or more electric plug sockets especially, the jack of Ayr style tools, such as a ***** machine which used compression Ayr for the each, can be connected, therefore it will become convenient also for use of an Ayr style tool.

Moreover, the mutual electrical and electric equipment in two or more unit cases and supply connection of compression Ayr can also be made.

[0039] In addition, according to a difference of magnitude, such as a band which attached the attachment means in the both ends of unit case external surface, then horizontal pipe material which constitutes a scaffold, it can attach like claim 2.

[0040] Moreover, while the code connection place by the side of electric supply and the hose connection place by the side of compression Ayr supply are distinguishable like claim 3 by countering and having a terminal area for electric introduction, and a connection for compression Ayr introduction in the direction of a front flesh side in the end section of a unit case, that each condition of connection can also be checked.

[0041] And the advantage of the electric code and air hose for being able to use it separately by the upper and lower sides according to the height of an activity part, and connecting between unit cases being short, and ending is also acquired like claim 4 by having an electric plug socket and a connection for compression Ayr ejection respectively together with the both ends in the same field of a unit case.

[0042] Furthermore, it can prevent with [with the electric code by BATATSUKI of the air hose accompanying Ayr feeding] a debt by making it hold respectively like claim 5 to the through hole which formed the electric code and the air hose in the unit case in pars intermedia at the plate member of immobilization.

[0043] Furthermore, about a unit case, like claim 6, it has the shape of a longwise box, and if coalesce with a last case and a back case constitutes, it can change into a decomposition condition and attachment and a maintenance of each component part can be performed easily.

[0044] Moreover, like claim 7, if two or more tubed part material constitutes, it becomes what can be crooked freely and can equip in the condition of having bent at the right angle etc. to the scaffold.

[0045] and wearing in the condition of having become free [crookedness] and elastic and having bent by constituting by the tubed part material which boils a part at least and has a flexible bellows-like part like claim 8 — in addition, wearing which carried out die-length accommodation according to the attach point can also be performed.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Thus, in order to use lighting, electric equipment, and an Ayr style tool in a construction site, the power cord and the air hose were drawn directly conventionally, or he is trying to make a scaffold crawl respectively, and the code and the hose became complicated in the site, and the leading-about activity in every site and a withdrawal activity became troublesome. And connection / removal activity over the code and hose became troublesome also from the field of use of electric equipment or an Ayr style tool.

[0004] Then, the purpose of this invention is to offer the electrical and electric equipment for scaffold attachment and Ayr piping unit which were carried out as [conveniently / use / the lighting in a site, and / of a power tool / attachment and detachment on the scaffold of a construction site are free, and / use of Ayr style tools, such as a ***** machine using compression Ayr,].

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MEANS

[Means for Solving the Problem] The long picture unit case equipped with the attachment means which can detach and attach this invention freely on a scaffold that the above technical problem should be solved. The terminal area for electric introduction and the connection for compression Ayr introduction which were prepared in the end section of this unit case external surface etc., [the electric plug socket and the connection for compression Ayr ejection which were prepared in the both ends of said unit case external surface etc. and which are plurality respectively, and in said unit case] As well as the power cord which connects between said terminal area for electric introduction, and said electric plug socket, it sets in said unit case. It is characterized by the electrical and electric equipment for scaffold attachment which consists of an air hose which connects between said connection for compression Ayr introduction, and said connection for compression Ayr ejection, and the Ayr piping unit.

[0006] In the above electrical and electric equipment for scaffold attachment and Ayr piping unit, said attachment means is the band attached in the both ends of said unit case external surface, for example. It counters and has said terminal area for electric introduction, and said connection for compression Ayr introduction in the direction of a front flesh side in the end section of said unit case, for example. Respectively together with the both ends in the same field of said unit case, it has said electric plug socket and said connection for compression Ayr ejection, for example. Said electric code and said air hose are respectively held in pars intermedia at the through hole formed in said unit case at the plate member of immobilization.

[0007] And said unit case has the shape of a box of for example, vertical length, it coalesces and a last case and a back case are constituted. Or it is constituted by two or more tubed part material free [crookedness]. Or it is constituted free [crookedness] and elastically by the tubed part material which has a flexible bellows-like part at least in a part.

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OPERATION

[Function] While equipping with the terminal area for electric introduction, and the connection for compression Ayr introduction the external surface of the long picture unit case which contained the power cord and the air hose and was equipped with the attachment means to a scaffold Respectively, since it is two or more electrical and electric equipment for scaffold attachment and Ayr piping units which come to have an electric plug socket and a connection for compression Ayr ejection While an attachment means can perform the attachment and detachment to a scaffold free and being able to make connection with the electric code by the side of electric supply by the terminal area for electric introduction, connection with the air hose by the side of an air compressor can be made by the connection for compression Ayr introduction.

[0009] And since the connection for compression Ayr ejection also has more than one while being able to insert the plug of lighting and a power tool in the each and being convenient for the lighting and use of a power tool, since there are two or more electric plug sockets especially, the jack of Ayr style tools, such as a ***** machine which used compression Ayr for the each, can be connected, and it becomes convenient also for use of the Ayr style tool. Moreover, the mutual electrical and electric equipment in two or more unit cases and supply connection of compression Ayr can also be made.

[0010] In addition, according to a difference of magnitude, such as horizontal pipe material which constitutes a scaffold, it is attached by using an attachment means as the band attached in the both ends of unit case external surface. Moreover, by countering and having a terminal area for electric introduction, and a connection for compression Ayr introduction in the direction of a front flesh side in the end section of a unit case, while the code connection place by the side of electric supply and the hose connection place by the side of compression Ayr supply are distinguishable, that each condition of connection can also be checked. And the electric code and air hose for being able to use it separately by the upper and lower sides according to the height of an activity part, and connecting between unit cases are short, and can be managed with having an electric plug socket and a connection for compression Ayr ejection respectively together with the both ends in the same field of a unit case. Furthermore, it can prevent with [with the electric code by BATATSUKI of the air hose accompanying Ayr feeding] a debt by making it hold respectively to the through hole which formed the electric code and the air hose in the unit case in pars intermedia at the plate member of immobilization.

[0011] Furthermore, about a unit case, it has the shape of a longwise box and is constituting with coalesce with a last case and a back case, and it changes into a decomposition condition and attachment and a maintenance of each component part can be performed easily. Moreover, it becomes what can be freely crooked with constituting by two or more tubed part material, and can equip in the condition of having bent at the right angle etc. to the scaffold, and wearing in the condition of having become free [crookedness] and elastic and having bent with constituting by the tubed part material which boils a part at least and has a flexible bellows-like part -- in addition, wearing which carried out die-length accommodation according to the attach point can also be performed.

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EXAMPLE

[Example] Below, the example of the electrical and electric equipment for scaffold attachment concerning this invention and an Ayr piping unit is explained based on drawing 1 thru/or drawing 12. First, it sets to drawing 1 which shows the attachment busy condition to the scaffold as an example of the electrical and electric equipment for scaffold attachment concerning this invention, and an Ayr piping unit. As for the longitudinal pipe material and 3, a scaffold and 2 are the same, and horizontal pipe material and 4 1 A scaffold board. As for the electrical and electric equipment for scaffold attachment with which as for the power cord and 8 an air compressor and 9 require the air hose, and 10 requires [6] a drum and 7 for this invention and an Ayr piping unit, and 100, an Ayr style tool (***** machine) and 101 are the air hose.

[0013] Like illustration, the electrical and electric equipment for scaffold attachment of two upper and lower sides and the Ayr piping units 10 and 10 are attached along with the longitudinal pipe material 2 and 2 of the accumulated scaffold 1. This electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 are the things of the shape of a longwise box which coalesced and constituted the last case 12 and the back case 22 which twist that unit case 11 to the product made from aluminum, as shown in drawing 2 thru/or drawing 6.

[0014] The last case 12 makes the shape of a cross-section K0 character opened back, and while forming the circular openings 13 and 13 for [long picture] making the connections 71 and 71 for compression Ayr ejection project respectively in the vertical edge approach section of the front face, the middle plate 15 which projects back is being fixed to pars intermedia by the screw (illustration abbreviation) stop. Moreover, the back case 22 makes the shape of a cross-section K0 character ahead opened corresponding to the last case 12, and the cover plate 23 and bottom plate 24 which project [long picture] ahead in the vertical end face are being fixed by the screw 25 and 25 stops.

[0015] And the tooth-back vertical edge of the back case 22 is respectively equipped with the attachment means 31 and 31. This attachment means 31 comes to have the pin 37 which lets a textile belt 34 pass between the K0 typeface bracket 38 of fixation, and 38 while it fastens a textile belt 34 to the screw 33 of a stationary plate 32, and 33 stop sections and forms pieces of Velcro 35 and 36 in this textile belt 34, as shown in drawing 3 thru/or drawing 8.

[0016] This attachment means 31 attaches the unit case 11 in the scaffold horizontal pipe material 3 by piling up through and pieces of Velcro 35 and 36 between the back case 22 and a textile belt 34 between a stationary plate 32, the K0 typeface bracket 38, and 38, and stopping the scaffold horizontal pipe material 3 mutually, as shown in drawing 3.

[0017] Moreover, the front lower limit section of the last case 12 is equipped with the terminal area 41 for electric introduction. this terminal area 41 for electric introduction is shown in drawing 4 -- as -- the inside of a socket 42 -- two forks -- having terminals 43 and 43, 44 is a socket box (refer to drawing 6 and drawing 8), and 45 is that screw for attachment.

[0018] Furthermore, said circular opening 13 and 13 approach are respectively equipped with the electric plug sockets 51 and 51 at the front vertical edge of the last case 12. This electric plug socket 51 has the plug spigot sections 52 and 52 of a vertical pair, as shown in drawing 4 . 53 is a plug socket box (refer to drawing 6 thru/or drawing 8), and 54 is that screw for attachment.

[0019] And as shown in drawing 6 and drawing 8 , in last case 12 lower part, the socket box 44 and the plug socket box 53 on it are connected by the electric code 46. Furthermore, as shown in drawing 6 thru/or drawing 8 , the electric code 55 connects between the up-and-down plug socket box 53 and 53. As shown in drawing 9 , one through hole 16 ****s in this electric code 55 between two through holes 16 and 16 formed in the middle plate 15.

[0020] Moreover, the tooth-back lower limit section of the back case 22 is equipped with the connection 61 for compression Ayr introduction. As this connection 61 for compression Ayr introduction is shown in drawing 4 thru/or drawing 6 , and drawing 8 , it is formed of the jack 62 by metallic ornaments, and this jack 62 is attached in the tooth back of the Ayr joint box 70 fixed in the back case 22.

[0021] Furthermore, the front face of this Ayr joint box 70 is equipped with the connection 71 for compression Ayr ejection. As this connection 71 for compression Ayr ejection is shown in drawing 4 thru/or drawing 8, it is formed with the joint pipe 72 by metallic ornaments, and this joint pipe 72 has the fastening metallic ornaments 73 of a rotating type.

[0022] Connection is made by inserting the jack prepared in the air hose for pressure-proofing of a proper Ayr style tool etc., turning the fastening metallic ornaments 73 in this joint pipe 72, and fastening. Also when removing, reverse actuation can perform easily.

[0023] Moreover, the same Ayr joint box 70 is being fixed also to the upper limit section within the back case 22. This Ayr joint box 70 does not have the above jacks 62 in a tooth-back side, the front face of this Ayr joint box 70 is also equipped with the connection 71 for compression Ayr ejection, and a joint pipe with 72 [same] and 73 are fastening metallic ornaments.

[0024] And as shown in drawing 6 thru/or drawing 8, the air hose 74 for pressure-proofing connects between the up-and-down Ayr joint box 70 and 70. As shown in drawing 9, the through hole 16 of another side ****s to this air hose 74 between two through holes 16 and 16 formed in the middle plate 15.

[0025] The last case 12 and the back case 22 which are respectively equipped with the above components Where it made the connections 71 and 71 (joint pipes 72 and 72) for compression Ayr ejection project respectively ahead from the circular openings 13 and 13 of the last case 12 and the power cords 46 and 55 and an air hose 74 are dedicated Respectively, the vertical edge of last case 12 front face is coalesced in a cover plate 23 and a bottom plate 24 a screw 19 and by carrying out the screw (illustration abbreviation) stop of the pars intermedia of back case 22 tooth back to a middle plate, while carrying out 19 (refer to drawing 4) stops.

[0026] In this way, the assembly of the electrical and electric equipment for scaffold attachment which the unit case 11 which prevents permeation of the storm sewage to the interior is assembled, namely, is built over this invention, and the Ayr piping unit 10 is completed.

[0027] Next, how to use the electrical and electric equipment for scaffold attachment by the above configuration and the Ayr piping unit 10 is explained. The installation to a scaffold 1 first, with the attachment means 31 and 31 of a unit case 11 vertical edge As shown in drawing 3, it sets between a stationary plate 32, the KO typeface bracket 38, and 38. By piling up through and pieces of Velcro 35 and 36 between the back case 22 and a textile belt 34, and stopping the scaffold horizontal pipe material 3 mutually, as shown in drawing 1, the unit case 11 is attached in the up-and-down scaffold horizontal pipe material 3 and 3.

[0028] And as shown in drawing 1 and drawing 2, in the socket 42 which makes the terminal area 41 for electric introduction with which the front lower limit section of the unit case 11 is equipped, the female mold plug of the power cord 7 twisted around the drum 6 is connected, and connection by the side of current supply is made. Furthermore, the air hose 9 for pressure-proofing which stands in a row in an air compressor 8 is connected to the jack 62 which makes the connection 61 for compression Ayr introduction with which the tooth-back lower limit section of the unit case 11 is equipped.

[0029] Thus, according to the electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 of this invention with which the scaffold 1 was equipped, using the joint pipes 72 and 72 which are the connections 71 and 71 for compression Ayr ejection, the jack of the air hose 101 of an Ayr style ***** machine 100 which is one of the Ayr style tools can be connected like illustration, and the Ayr style ***** machine 100 can be used. Moreover, Ayr style tools, such as other Ayr style nut runners, can also be used.

[0030] Furthermore, according to the electrical and electric equipment for scaffold attachment and the Ayr piping unit 10 of this invention, the plug of the lighting which is not illustrated and a power tool can be inserted using the electric plug sockets 51 and 51, and lighting and a power tool can be used.

[0031] By the way, as shown in drawing 1 and drawing 2, it can be used in electric code 105 if needed, being able to connect the electric plug socket 51 of the electrical and electric equipment attached in the lower-berth side of a scaffold 1, and the Ayr piping unit 10, and the socket 42 of the electrical and electric equipment attached in the upper case side, and the Ayr piping unit 10.

[0032] Similarly, as shown in drawing 2, it can be used by the air hose 106 for pressure-proofing, being able to connect the joint pipe 72 of the electrical and electric equipment attached in the lower-berth side of a scaffold 1, and the Ayr piping unit 10, and the jack 62 of the piping unit 10 attached in the upper case side. In addition, although the last case 12 and the back case 22 made from aluminum constituted the unit case 11 from the above example, the last case 12 and the back case 22 made of resin may be adopted.

[0033] Drawing 10 is the example of the unit case 81 whose crookedness shows other examples of a configuration of a unit case, and was enabled in the middle joint section 83 by two tubed part material 82 and 82.

[0034] Moreover, the unit case 85 whose crookedness was respectively enabled in the two joint

sections 87 and 87 in the meantime by three tubed part material 86, 86, and 86 is shown in drawing 11. If it carries out like this, it can equip in the condition of having bent at the right angle etc. to the scaffold 1.

[0035] Drawing 12 is the example of the unit case 91 constituted by the tubed part material which has the flexible bellows-like part 93 in between for an up-and-down tubed part [92 / 92 and], and while being freely crooked by the flexible part 93, the function to be elastic is obtained. If it carries out like this, in addition to wearing in the condition of having bent to 1, according to the attach point to a scaffold 1, die length is adjusted on a scaffold a little, and it can be equipped with it.

[0036] In addition, in the above example, although considered as the configuration which arranged respectively the electric plug socket and the connection for compression Ayr ejection in the same side both ends of a unit case, this invention may not be limited to this, and the arrangement side and arrangement part may be changed, or it may be three or more pieces about the number. Moreover, the die-length dimension of a unit case, the quality of the material, a design, etc. are arbitrary, for example, good also as a telescopic type unit case. In addition, of course, it can change suitably also about a concrete constructional detail also including the configuration of an attachment means.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the outline perspective view showing the attachment busy condition to the scaffold as an example of the electrical and electric equipment for scaffold attachment concerning this invention, and an Ayr piping unit.

[Drawing 2] It is the outline perspective view in which combining with the example of connection of the electrical and electric equipment for scaffold attachment concerning this invention, and an Ayr piping unit, and showing the example of use.

[Drawing 3] It is the expansion perspective view showing the mounting area to the scaffold by the attachment means.

[Drawing 4] It is the outline perspective view showing the electrical and electric equipment for scaffold attachment and Ayr piping unit concerning this invention from a transverse-plane side.

[Drawing 5] It is the outline perspective view similarly shown from a tooth-back side.

[Drawing 6] It is the outline perspective view in which disassembling the last case and back case of the electrical and electric equipment for scaffold attachment concerning this invention, and an Ayr piping unit into, and showing a internal structure etc.

[Drawing 7] Similarly it is a upside expansion perspective view.

[Drawing 8] Similarly it is a lower expansion perspective view.

[Drawing 9] Similarly it is the expansion perspective view of the plate member part of pars intermedia.

[Drawing 10] It is the outline perspective view showing the example of a configuration of the unit case by two tubed part material.

[Drawing 11] It is the outline perspective view showing the example of a configuration of the unit case by three tubed part material similarly.

[Drawing 12] It is the outline perspective view showing the example of a configuration of the unit case by the tubed part material which has a flexible bellows-like part in pars intermedia.

[Description of Notations]

- 1 Scaffold
- 2 Longitudinal Pipe Material
- 3 Horizontal Pipe Material
- 4 Scaffold Board
- 6 Drum
- 7 Power Cord
- 8 Air Compressor
- 9 Air Hose
- 10 Electrical and Electric Equipment for Scaffold Attachment and Ayr Piping Unit Concerning this Invention
- 11 Unit Case
- 12 Last Case
- 13 Circular Opening
- 15 Middle Plate
- 16 Through Hole
- 22 Back Case
- 23 Cover Plate
- 24 Bottom Plate
- 31 Attachment Means
- 34 Belt
- 41 Terminal Area for Electric Introduction
- 42 Socket
- 43 Two Forks -- Terminal
- 44 Socket Box
- 46 Power Cord

51 Electric Plug Socket
52 Plug Spigot Section
53 Plug Socket Box
55 Power Cord
61 Connection for Compression Ayr Introduction
62 Jack
70 Ayr Joint Box
71 Connection for Compression Ayr Ejection
72 Joint Pipe
73 Fastening Metallic Ornaments
74 Air Hose
81, 85, 91 Unit case
82 86 Tubed part material
93 Flexible Part
100 An Ayr Style Tool (***** Machine)
101 Air Hose

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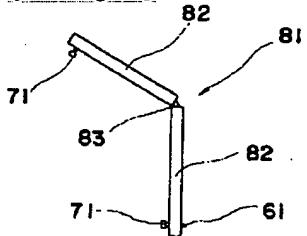
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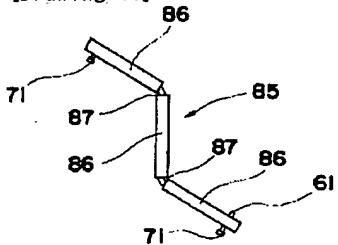
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DRAWINGS

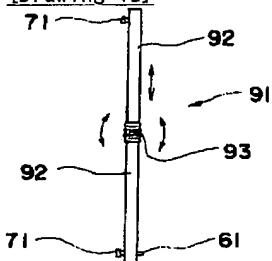
[Drawing 10]



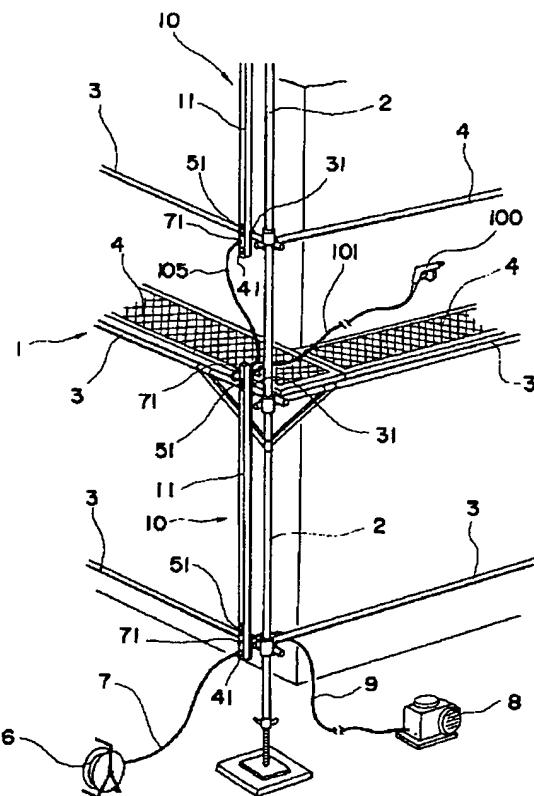
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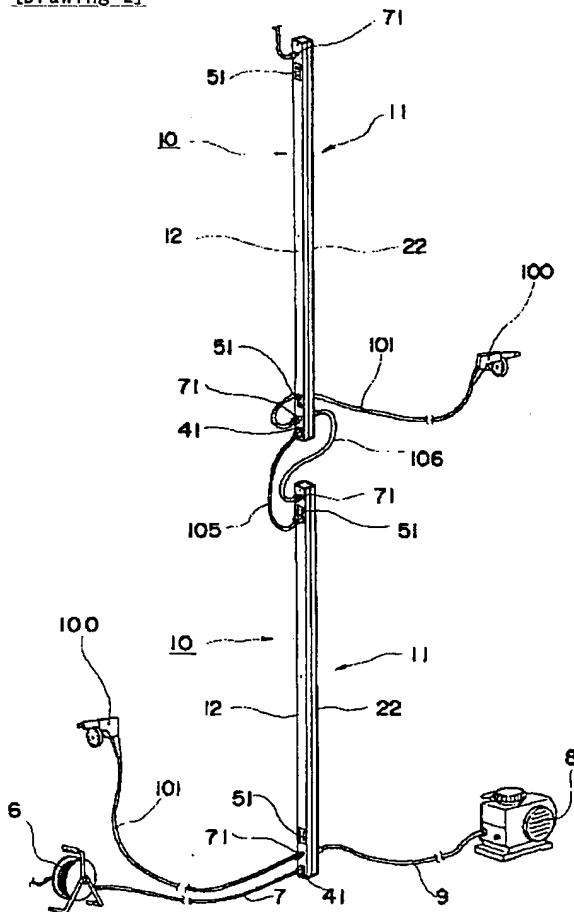
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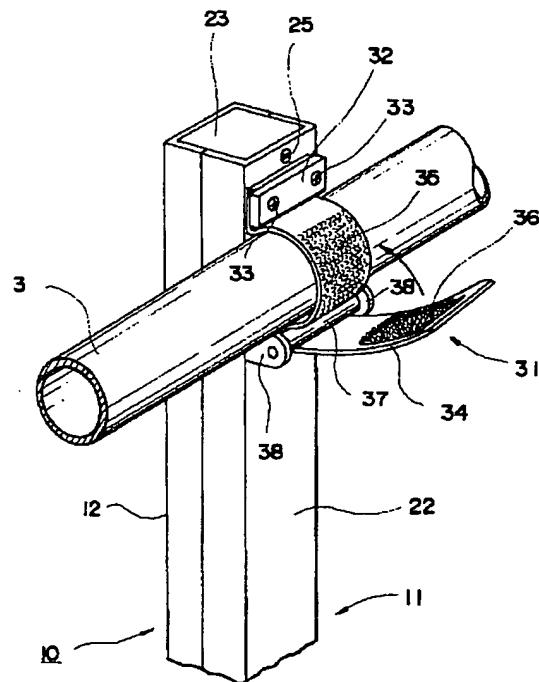
[Drawing 1]



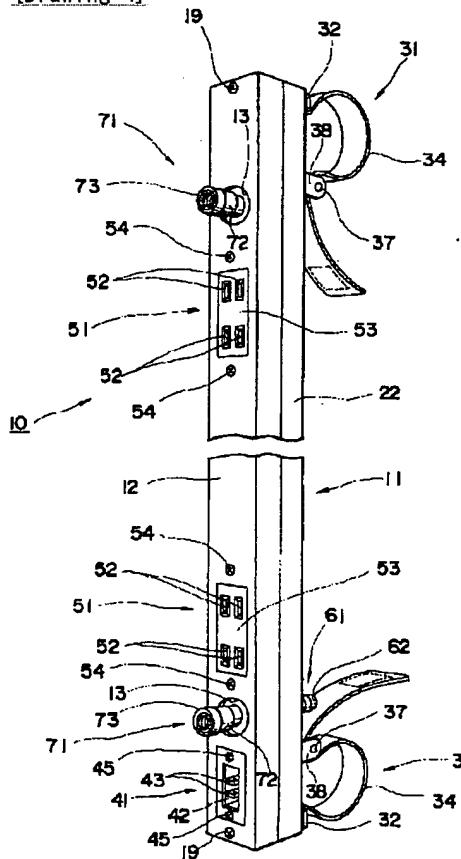
[Drawing 2]



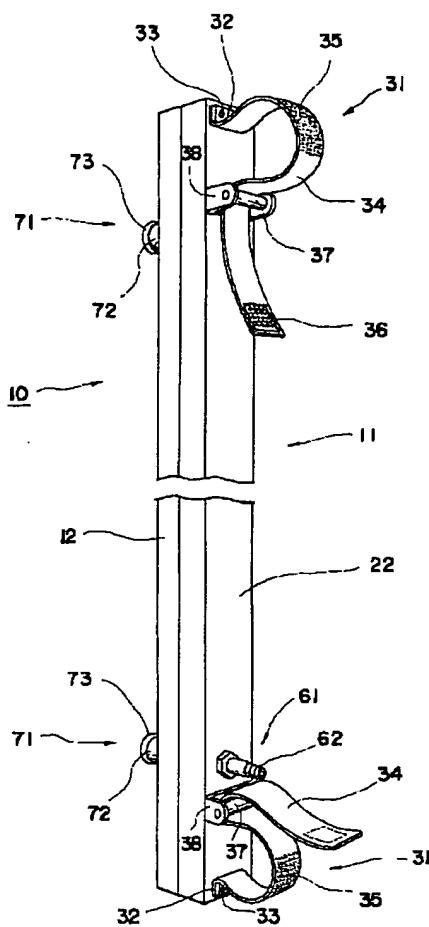
[Drawing 3]



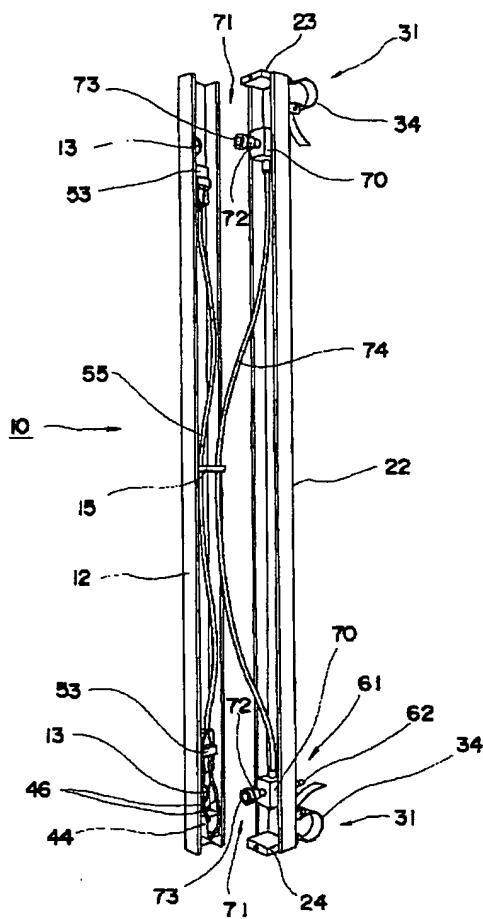
[Drawing 4]



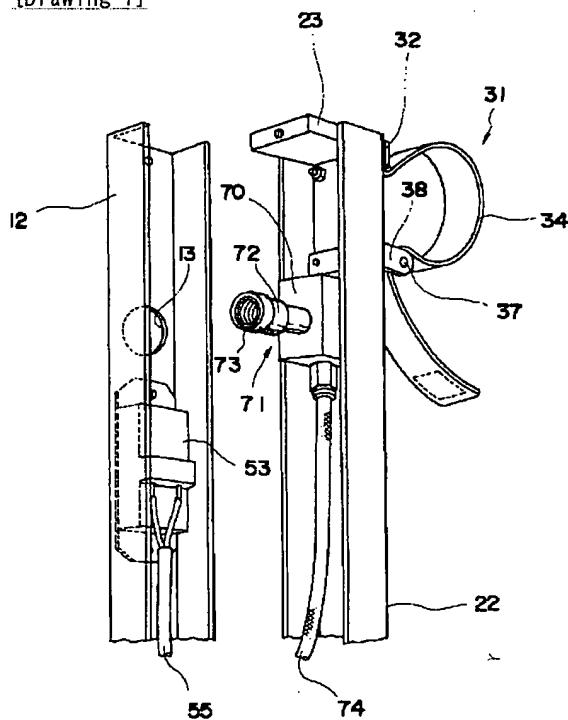
[Drawing 5]



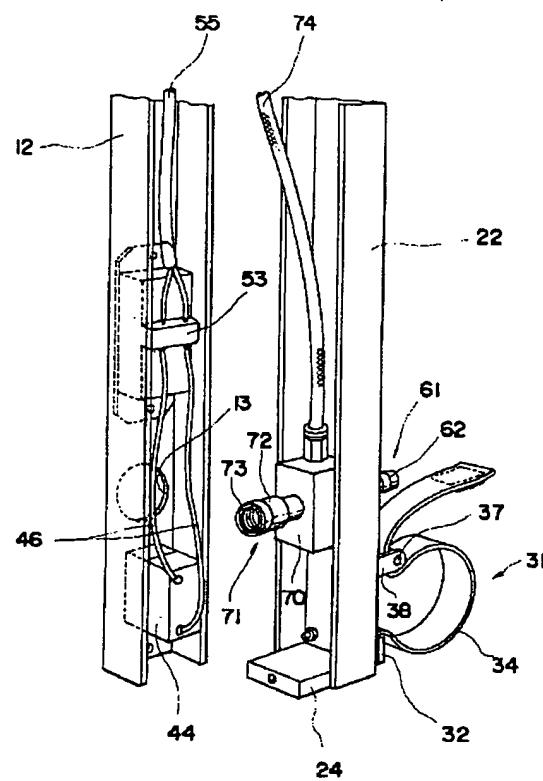
[Drawing 6]



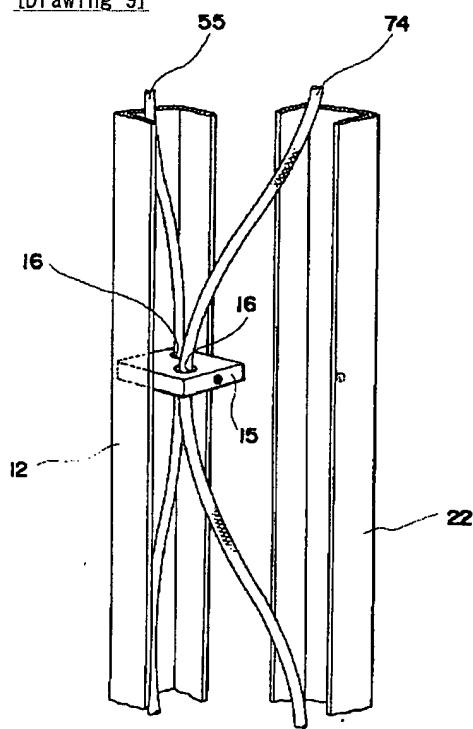
[Drawing 7]



[Drawing 8]



[Drawing 9]



[Translation done.]

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